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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,327	10/27/2003	Yin-Chun Huang	JCLA9689	4865
43831 7590 10/16/2007 BERKELEY LAW & TECHNOLOGY GROUP, LLP 17933 NW Evergreen Parkway, Suite 250 BEAVERTON, OR 97006			EXAMINER VO, QUANG N	
			ART UNIT 2625	PAPER NUMBER
			MAIL DATE 10/16/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/695,327	Applicant(s) HUANG ET AL.	
	Examiner Quang N. Vo	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213:

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 14-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Response to Amendment

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Newly submitted claims 14-17 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

In particular, claim 14 comprising: a scanner configured to scan an image at a scanned image level and processor.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 14-17 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenze et al. (Tenze) (US 6,819,804) in view of Accad (US 5,553,200).

With regard to claim 1, Tenze discloses a method for reducing image noise in a scanned image (e.g., electronic devices with CCD/CMOS sensors column 1, lines 13-20 and lines 30-34), decreasing a color level of the scanned image by reducing a number of bits of a full color level of one or more pixels in the scanned image to form a reduced color level image (column 1, lines 20-22; e.g., filters is applied depending on the type of noise to remove, column 3, line 64 – column 4, line 29, e.g., reduce noise level equal reduce bit rate); composing a pattern having less color level than the full color level (e.g., different kind of filters composing with digital image, column 1, lines 35-45).

Tenze differs from claim 1, in that he does not explicitly teach recombining the full color level of the one or more pixels in the scanned image by combining the reduced color level image with the pattern.

Accad discloses recombining the full color level of the one or more pixels in the scanned image by combining the reduced color level image with the pattern (e.g., reconstructing bit rate reduced images when coded using dither array, column 15, lines 15-51).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Tenze to include recombining the full color level of the one or more pixels in the scanned image by combining the reduced color level image with the pattern as taught by Accad. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Tenze by the teaching of Accad to reproduce digital image in full color.

With regard to claim 2, Accad discloses wherein the reduced color level image and the pattern are combined using a bit enhanced method (column 14, line 62 – column 15, line 12).

With regard to claim 3, Accad discloses wherein combining the reduced color level image with the pattern restores the one or more pixels to include a same number of bits as before the color level is decreased (e.g., $R' = 255$ after reconstruction, column 15, lines 28-51).

With regard to claim 4, Accad discloses wherein the pattern comprises a halftone pattern (e.g., dithered array, column 15, lines 15-24).

With regard to claim 5, Tenze discloses wherein the number of bits reduced from the full color level is set to an image noise level (e.g., suitable filter (the number of bits reduced) used to remove noise, column 1, lines 35-45).

With regard to claim 6, Tenze discloses a method for reducing image noise wherein the image is composed of a plurality of pixels having a scale of bits (e.g., CCD/CMOS sensors device, column 1, lines 16-22), comprising the steps: reducing a plurality of bits of the scale of each pixel in the image (column 1, lines 20-22; e.g., filters is applied depending on the type of noise to remove, column 3, line 64 – column 4, line 29).

Tenze differs from claim 6, in that he does not explicitly teach recombining the scale of each pixel in the image, wherein the step of recombining the scale of each pixel in the image comprises a halftone pattern method, wherein a pattern composed by the halftone pattern method is a matrix pattern, and wherein the row and column numbers

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of the matrix pattern are dependent on the number of bits reduced in the step of reducing a plurality of bits of the scale of each pixel in the image.

Accad discloses recombining the full color level of the one or more pixels in the scanned image by combining the reduced color level image with the pattern (e.g., reconstructing bit rate reduced images when coded using dither array, column 15, lines 15-51).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Tenze to include recombining the full color level of the one or more pixels in the scanned image by combining the reduced color level image with the pattern as taught by Accad. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Tenze by the teaching of Accad to reproduce digital image in full color.

With regard to claim 7, Tenze discloses wherein the color level of the pattern depends on the number of bits reduced from the full color level (e.g., set of filter (pattern) used to reduce full color level of image, column 3, line 64 – column 4, line 29).

With regard to claim 8, the subject matter is similar to claim 1. Therefore, the rejection on claim 8 is set forth as claim 1.

With regard to claim 9, the subject matter is similar to claim 3. Therefore, the rejection on claim 9 is set forth as claim 3.

With regard to claim 10, Accad discloses substantially the claimed invention as set forth in the discussion above for claim 1.

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Accad does not disclose expressly wherein the halftone pattern comprises a matrix having a number of rows equal to the decreased number of bits.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the halftone pattern comprises a matrix having a number of rows equal to the decreased number of bits. Applicant has not disclosed that a matrix having a number of rows equal to the decreased number of bits provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either using dither array (halftone pattern) or using a matrix having a number of rows equal to the decreased number of bits as claimed because both array (matrix) perform the same function of recombining full image color level.

Therefore, it would have been obvious to combine to one of ordinary skill in this art to modify Accad with to obtain the invention as specified in claim 10.

With regard to claim 11, Accad discloses substantially the claimed invention as set forth in the discussion above for claim 1.

Accad does not disclose expressly wherein the halftone pattern comprises a matrix having a number of columns equal to the decreased number of bits.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the halftone pattern comprises a matrix having a number of columns equal to the decreased number of bits. Applicant has not disclosed that a matrix having a number of columns equal to the decreased number of bits provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary

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skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either using dither array (halftone pattern) or using a matrix having a number of column equal to the decreased number of bits as claimed because both array (matrix) perform the same function of recombining full image color level.

Therefore, it would have been obvious to combine to one of ordinary skill in this art to modify Accad with to obtain the invention as specified in claim 11.

With regard to claim 12. Tenze discloses further comprising displaying the image including the recombined image level on a computer monitor (column 3, lines 31-55).

With regard to claim 13, Accad discloses further comprising filling out missing codes of the one or more pixels of the image using a bit enhance method (column 14, line 62 – column 15, line 12).

Referring to claim 18:

Claim 18 is the apparatus claim corresponding with method steps in claim 1. Therefore claim 18 is rejected as set forth above for claim 1.

Referring to claim 19:

Claim 19 is the apparatus claim corresponding with method steps in claim 3. Therefore claim 19 is rejected as set forth above for claim 3.

With regard to claim 20, Accad discloses substantially the claimed invention as set forth in the discussion above for claim 1.

Accad does not disclose expressly wherein the halftone pattern comprises a matrix having a number of rows and columns equal to the decreased number of bits.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the halftone pattern comprises a matrix having a number of rows and columns equal to the decreased number of bits. Applicant has not disclosed that a matrix having a number of rows and columns equal to the decreased number of bits provides an advantage, is used for a particular purpose or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either using dither array (halftone pattern) or using a matrix having a number of rows and column equal to the decreased number of bits as claimed because both array (matrix) perform the same function of recombining full image color level.

Therefore, it would have been obvious to combine to one of ordinary skill in this art to modify Accad with to obtain the invention as specified in claim 20.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang N. Vo whose telephone number is 5712701121. The examiner can normally be reached on 7:30AM-5:00PM Monday-Friday.

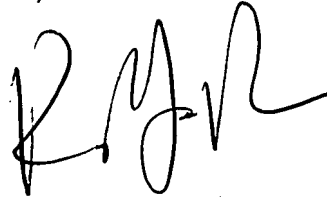
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 5712727440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Quang N. Vo 10/9/07
Patent Examiner



KING Y. POON
SUPERVISORY PATENT EXAMINER